

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111
Serial Number: 10/748,758
Filing Date: December 30, 2003
Title: LOW LATENCY OPTICAL MEMORY BUS

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REMARKS

The official Action mailed August 23, 2007 has been carefully considered. Reconsideration and allowance, of the subject application, as amended, are respectively requested. Claims 1, 10, 15, 22 and 25 have been amended to overcome the Examiners formal objections thereto, and to further define the invention over the art. No new matter has been added to the subject application as a result of the changes made thereto.

35 USC §102 Rejection of the Claims

Claims 1-21 stand rejected under 35 USC § 102(e) as being anticipated by Levy et al. (U.S. Publication No. 2004/0126115). Applicants respectfully submit this rejection is in error.

It is Applicant's understanding that Levy teaches a system that includes multiple agents coupled to an optical bus for high speed signal transmission, and coupled to an electrical bus for low-speed signal transmission. Figure 5 shows one example of such a system that includes a memory controller coupled by an electrical length 46 to an optical transmitter and receiver (OTNR) that is coupled in turn to an optical connection system 51, 52 and 53. Each of the agents coupled along the bus are connected via an optical connector housing 33. In one embodiment, as shown in Figure 6A, the optical connector housing 33 included a pair of semi-transparent mirrors 63, 64 which are partially reflective and configured to direct light from the optical fiber length 51. If the optical transmission is addressed to the particular agent then the optical transmission is forwarded along to that agent, however, if the optical transmission is not for that particular agent the optical transmission is retransmitted by the optical transmitter. In other embodiments the optical mirror can be optically graded to pick out only one color going to the optical transmitters and or receivers.

Importantly, nowhere does the Levy reference disclose or suggest the concept of dividing the optical power evenly amongst the agents that are coupled to the bus so that each agent receives a substantially equal amount of power. In contrast, Applicant's invention of independent Claim 1 requires, *inter alia*, each of the end optical couplers to couple one-Nth of the power of the optical signal from the optical bus to its associated optical receiver, each optical

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receiver to convert its one-Nth of the power of the optical signal to a second set of electrical signals, . . . " (Claim 1, as amended.) Independent claims 10 and 15 have been similarly amended. As noted above, nowhere does the Levy reference disclose or suggest the concept of dividing the power of the optical signal amongst the agents that are coupled to the system. This is a specific requirement of Applicant's invention of independent Claims 1 and 10.

To that end, the Examiner appears to point to the Levy reference at paragraph [0035], lines 1 – 5; Fig. 6A and Fig. 8 "where in one-nth of the optical signal from the optical bus 82 is coupled into one of the dims 30, which includes optical receiver 61. However, Applicants respectfully submit that the Examiner has mischaracterized the teachings of Levy. Indeed, nowhere does it appear that Levy teaches that each of the devices coupled to the optical bus receives one-nth of the power of the optical signal.

Since these specific teachings appear to be entirely missing from the teachings of the Levy reference relied upon by the Examiner, it is respectfully submitted that Levy could anticipate the claims, as currently amended.

35 USC §103 Rejection of the Claims

Claims 22 - 27 stand rejected under 35 USC § 103(a) as being unpatentable over Levy et al. (U.S. Publication No. 2004/0126115) in view of Sheaffer (U.S. Publication No. 2003/0188244). Applicants respectfully submit this rejection is also in error.

Applicants note that the Levy reference relied upon by the Examiner is properly cited as prior art only under 35 USC § 102(e). Further, Applicants note that the Levy reference has been assigned to Intel Corporation, the assignee of this subject application. Accordingly, it is respectfully submitted that Examiner cannot use this reference under 35 USC § 103 in combination with any other reference, and thus, no specific discussion of the Examiner's formal rejection to Claims 22 - 27 is believed necessary.

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Conclusion

Applicants respectfully submit that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (603-668-6560) to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 50-4238.

Respectfully submitted,

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CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this correspondence is being transmitted via facsimile to the United States Patent and Trademark Office, Attn. Examiner, Phyllis Lin, Art Unit 2703, at fax number (571) 273-8300 on January 23, 2008.

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